

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

Date of mailing (day/month/year)
12 October 2006 (12.10.2006)

To:

HASHIZUME, Takeshi
13-17, Ginza 3-chome, Chuo-ku, Tokyo
1040061
JAPON

Applicant's or agent's file reference P0769PC	IMPORTANT NOTIFICATION
International application No. PCT/JP2004/019517	International filing date (day/month/year) 27 December 2004 (27.12.2004)
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY et al	

1. **Transmittal of the translation to the applicant.**

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. **Transmittal of the copy of the translation to the designated or elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

EP, KR

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. **Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Yoshiko Kuwahara

Facsimile No. +41 22 338 82 70

Facsimile No. +41 22 338 82 70

TRANSLATION PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P0769PC	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/019517	International filing date (day/month/year) 27.12.2004	Priority date (day/month/year) 05.01.2004
International Patent Classification (IPC) or national classification and IPC G02F1/35		
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY		

<p>1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 7 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))</p> <p>containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																	
<p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/> Box No. I	Basis of the report																
<input type="checkbox"/> Box No. II	Priority																
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																
<input type="checkbox"/> Box No. IV	Lack of unity of invention																
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																
<input type="checkbox"/> Box No. VI	Certain documents cited																
<input type="checkbox"/> Box No. VII	Certain defects in the international application																
<input type="checkbox"/> Box No. VIII	Certain observations on the international application																

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPEA/409 (cover sheet) (January 2004)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/019517

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))
 publication of the international application (Rule 12.4)
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished
 the description:

pages 1-24 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

the claims:

nos. 2-4, 6, 7, 11, 15 as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* 1, 5, 8-10, 12-15 received by this Authority on 29.11.2005

nos.* _____ received by this Authority on _____

the drawings:

sheets fig. 1-13 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. 17, 18
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/019517

Box No. V		Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																									
<p>1. Statement</p> <table> <tr> <td>Novelty (N)</td> <td>Claims</td> <td>1-16</td> <td>YES</td> </tr> <tr> <td></td> <td>Claims</td> <td></td> <td>NO</td> </tr> <tr> <td>Inventive step (IS)</td> <td>Claims</td> <td>1-16</td> <td>YES</td> </tr> <tr> <td></td> <td>Claims</td> <td></td> <td>NO</td> </tr> <tr> <td>Industrial applicability (IA)</td> <td>Claims</td> <td>1-16</td> <td>YES</td> </tr> <tr> <td></td> <td>Claims</td> <td></td> <td>NO</td> </tr> </table>				Novelty (N)	Claims	1-16	YES		Claims		NO	Inventive step (IS)	Claims	1-16	YES		Claims		NO	Industrial applicability (IA)	Claims	1-16	YES		Claims		NO
Novelty (N)	Claims	1-16	YES																								
	Claims		NO																								
Inventive step (IS)	Claims	1-16	YES																								
	Claims		NO																								
Industrial applicability (IA)	Claims	1-16	YES																								
	Claims		NO																								
<p>2. Citations and explanations (Rule 70.7)</p> <p>The inventions set forth in claims 1 to 4, 8, 9 and 12 to 16 involve an inventive step in relation to the documents that are cited in the international search report. Techniques wherein the signal light pulses that were input are subjected to linear chirping and are thereafter made to traverse a dispersion medium so as to undergo optical Fourier transformation are well known (refer to document 2 and the like), and document 1 discloses an optical Fourier transformation technique wherein an optical Kerr medium is used as the means for controlling the chirping of the signal light pulses. However, the optical Fourier transformation technique wherein an optical Kerr medium into which a control light pulse with a shape expressed by a quadratic function or a parabola has been introduced is used as the means for subjecting the input signal light pulses to linear chirping is not disclosed in any of the documents that are cited in the international search report, and would not have been obvious to a person skilled in the art.</p> <p>The inventions set forth in claims 5 to 7, 10 and 11 involve an inventive step in relation to the documents that are cited in the international search report. The optical Fourier transformation technique wherein a generator for</p>																											

Form PCT/IPEA/409 (Box No. V) (January 2004)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY		International application No. PCT/JP2004/019517
Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	
<p>generating quadratic function-type optical pulses, which is equipped with dispersion reducing fibers for reducing the absolute value of the normal dispersion in the longitudinal direction, is used as the means for generating the control light pulses that are introduced into the optical Kerr medium is not disclosed in any of the documents that are cited in the international search report, and the feature in question would not have been obvious to a person skilled in the art.</p>		
<p>Citations:</p> <p>Document 1: L. Kh. MOURADIAN et al., "Spectro-Temporal imaging of Femtosecond Events," IEEE Journal of Quantum Electronics, Vol. 36, No. 7, (2000), pages 795 to 801</p> <p>Document 2: B. H. KOLNER, "Space-Time Duality and the Theory of Temporal Imaging," IEEE Journal of Quantum Electronics, Vol. 30, No. 8, (1994), pages 1951 to 1963</p> <p>Document 3: V. I. KURGLOV et al., "Self-Similar Propagation and Amplification of Parabolic Pulses in Optical Fibers," Physical Review Letters, Vol. 84, No. 26, (2000), pages 6010 to 6013</p> <p>Document 4: D. ANDERSON et al., "Wave-braking-free pulses in non-linear optical fibers," J. Opt. Soc. Am., B, Vol. 10, No. 7, (1993), pages 1185 to 1190</p> <p>Document 5: JP 05-265057 A (Nippon Telegraph And Telephone Corp.), 15 October 1993 (Family: none)</p>		